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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,010	05/29/2001	Matthew G. Waight	MOTD2174	7726

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EXAMINER

NGUYEN, DUC M

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/857,010

Applicant(s)

WRIGHT ET AL.

Examiner

Duc M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11 and 13-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 13-18 and 20-34 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This action is in response to applicant's response filed on 9/12/03. Claims 11, 13-34 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim **28** is rejected under 35 U.S.C. 102(b) as being anticipated by **Nagatomi** (US Patent Number **4,794,458**).

Regarding claim **28**, **Nagatomi** discloses a method for combining a plurality of received signals and outputting a desired output signal, the method comprising:

- (a) receiving a video signal (see Video input in ref. 2 of Figs. 1-2);
- (b) receiving a first audio signal (see Audio input in ref. 2 of Figs. 1-2);
- (c) combining the video signal and the first audio signal to generate a modulated summed signal (see Figs. 1-2, modulator 2, and **col. 1, lines 32-65**);
- (d) generating a first frequency for mixing with the modulated summed signal to generate a high intermediate frequency (HI-IF) signal (see Figs. 1-2, mixer I, ref. 4); and
- (e) generating a second frequency for mixing with the HI-IF signal to generate the desired output signal (see Figs. 1-2, ref. 10, mixer II and **col. 1, lines 32-65**).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **11, 13-18, 24-30, 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Graves** (US **4,825,286**) in view of **Nagatomi** (US **4,794,458**).

Regarding claim **11**, **Graves** discloses a modulator for combining a plurality of received signals and outputting a desired output signal, the modulator comprising:

- a summing amplifier (see col. 7, lines 11-12) having a first input, a second input and a third input as claimed (see Fig. 10 and col. 10, lines 50-65);

However, **Grave** fails to disclose a first frequency synthesizer and a second frequency synthesizer for converting the modulated summed signal to a desired output signal. However, using such frequency synthesizers for converting the modulated summed signal to a desired output signal is known in the art as disclosed by **Nagatomi** (see Figs 1-2 and **col. 1, lines 32-52**). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further incorporate the above teaching of **Nagatomi** to **Graves** for providing frequency synthesizers as claimed, so that the signals can be converted to a TV broadcasting signals for transmission in accordance with the NTSC standard.

Regarding claim **13**, it is rejected for the same reason as set forth in claim 11 above. In addition, since Grave discloses frequency modulators f_1 and f_2 for the audio signals, it is clear that an audio mixer and an oscillator would be required, thereby a frequency synthesizer would be obviously, if not inherently, required in order to generate oscillator signal f_1 and oscillator signal f_2 for the audio mixer. Therefore, the claimed limitations are made obvious by **Nagatomi** to **Graves** for providing a mixer and a third frequency synthesizer as claimed, in order to convert a baseband audio signal to a modulated audio signal for transmission.

Regarding claims **14-15**, they are rejected for the same reason as set forth in claim 11 above. In addition, since Nagatomi discloses a bandpass filter for passing the mixing signal of the sum frequency follows the mixer 4, their combination would read on the up-converter as claimed (see Nagatomi, col. 1, lines 36-42).

Regarding claims **16-17**, they are rejected for the same reason as set forth in claim 11 above. In addition, since Nagatomi discloses a low-pass filter for passing the mixing signal of the difference frequency follows the mixer 10, their combination would read on the down-converter as claimed (see Nagatomi, col. 1, lines 43-50).

Regarding claim **18**, it is rejected for the same reason as set forth in claim 11 above. In addition, since using a common communication bus for controlling frequencies of synthesizers is known in the art (Official Notice), it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Nagatomi** and **Graves** for providing a common communication bus as claimed, for cost saving (i.e., only a single oscillator is needed).

Regarding claim **24**, it is rejected for the same reason as set forth in claim 20 above. In addition, it would have been obvious to use an adjustable amplifier for adjusting the gain of the audio signal as claimed, for conforming to the broadcast standard (i.e, the standard setting for the minimum and/or the maximum transmission power of a broadcast signal regarding interferences, service quality).

Regarding claim **25**, it is rejected for the same reason as set forth in claim 24 above. In addition, it would have been obvious to use a communication bus as claimed, in order to adjust the amplitude of the amplifier.

Regarding claim **26**, it is rejected for the same reason as set forth in claim 11 above. In addition, it is clear that Nagatomi would disclose the modulator is incorporated into a CATV as claimed (see col. 1, line 5 – col. 2, line 17).

Regarding claim **27**, it is rejected for the same reason as set forth in claim 2 above. In addition, it is clear that Nagatomi would disclose the desired output signal is coupled to a TV receiver as claimed (see col. 1, line 5 – col. 2, line 17), in order or a user to view/listen video/audio signals.

Regarding claims **28-30**, the claims are interpreted and rejected for the same reason as set forth in claim 13 above.

Regarding claim **34**, it is rejected for the same reason as set forth in claim 24 above.

5. Claims **20-23, 31-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Graves** in view of **Nagatomi** and further in view of **Morton (US 3,763,357)**.

Regarding claim **20**, it is rejected for the same reason as set forth in claim 11 above. In addition, it would have been obvious to use a clamp circuit for limiting the amplitude of the video signal as disclosed by Morton (see Fig. 2, col. 4, lines 4-10), to set a limit to which the video may swing.

Regarding claim **21**, it is rejected for the same reason as set forth in claim 20 above. In addition, it would have been obvious to use an adjustable amplifier for adjusting the gain of the video signal as disclosed by Morton (see Fig. 2, col. 7, lines 14-15), for conforming to the broadcast standard.

Regarding claim **22**, it is rejected for the same reason as set forth in claim 21 above. In addition, it would have been obvious to use a communication bus as claimed, in order to adjust the resistor 8402 as disclosed by Morton (see Fig. 2, col. 7, lines 14-15), so that the amplitude of the amplifier can be varied.

Regarding claim **23**, it is rejected for the same reason as set forth in claim 21 above. In addition, it would have been obvious to use a limiter for clipping signal peaks as claimed, for preventing signal saturation.

Regarding claims **31-33**, the claims are interpreted and rejected for the same reason as set forth in claims 20-21, 23 above, respectively.

Allowable Subject Matter

6. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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7. The following is a statement of reasons for the indication of allowable subject matter:

As to claims 19, the cited prior art fails to disclose or make it obvious a method or apparatus for combining a plurality of received signals and outputting a desired output signal which comprise components as specified in the claim.

Response to Arguments

8. Applicant's arguments with respect to claims 11, 13-34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Laughlin** (US Patent Number 4,054,794), Optical communications link.
- **Shekel et al** (US Patent Number 3,639,840), Multi-carrier transmission system.
- **Kupnicki et al** (US Patent Number 4,742,544), Television transmission network with scrambling and descrambling.
- **Schick et al** (US 5,970,053), Method and apparatus for controlling peak factor of coherent frequency-division multiplexed systems.
- **Grotzinger et al** (US 4,959,827), Laser signal mixer circuit.

11. **Any response to this final action should be mailed to:**

Box A.F.

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for formal communications intended for entry)

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

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Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (703) 306-4531, Monday-Thursday (9:00 AM - 5:00 PM). Or to Edward Urban (Supervisor) whose telephone number is (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Duc M. Nguyen

Nov 28, 2004

A handwritten signature in black ink, appearing to read 'Duc M. Nguyen', written over the printed name and date.